TAURANGA GIRLS COLLEGE
YEAR 10 HOMEWORK SHEET
Series C Sheet 4
TGC Values: Respect, Participation, Pride

Name: _____

Due Date: _____

KEY SKILLS:

1. Write the number three hundred and forty thousand

_____

2. Round 45,630 to the nearest *thousand*

_____

3. Write *twenty six hundredths* a *decimal*

_____

4. 5.6 litres = _____ mL

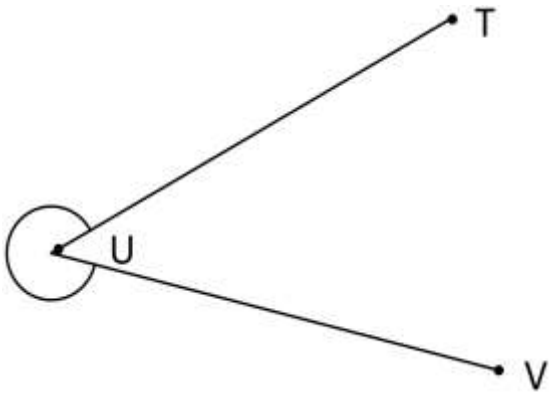
5. What is the metric unit for mass?

6. Complete this equivalent fraction

$\frac{2}{5} = \frac{\quad}{30}$

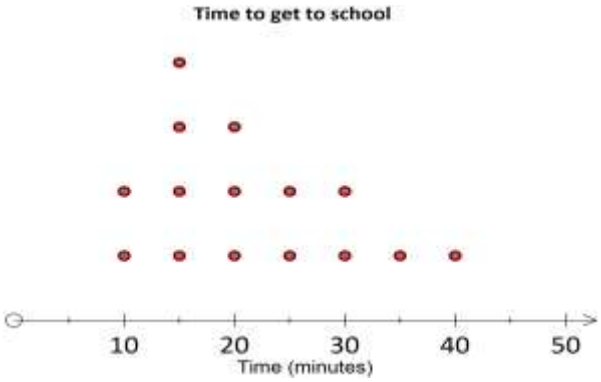
7. Calculate 15% of $4650

8.



Is this angle *acute, obtuse or reflex?*

9. If a wheel turns through eight complete revolutions how many right angles has it turned through?



10. The dot plot above records how long students in 10ABC took to get to school. The times were recorded to the nearest five minutes.

a) What was the *modal (mode)* time?

b) What was the *median* time?

c) What was the *upper quartile* time?

d) What is the *shape* of the times to get to school for 10ABC?

*Key Skills Total: _____ / **13***

REVIEW and CURRENT WORK (CL 4 – 5): Number and Algebra

(You can use a calculator)

A. Review

1. $\sqrt{32}$ = (1dp)

2. 36 out of 240 students walked to school. What percentage is this?

3. If w = 9u – 3v find w if u = 7, and v = ¯20

w =

=

4.

x	1	2	3	4
y	4	12	20	28

Write the rule linking x and y

Algebra Simplifyong:

1. c + 7c + 7c =

2. 7k – k – 4k – 12k =

3. 5a + 7c + a + 7c =

4. 8f + 13g – 4f – 9g =

5. 8a x 7 =

6. 3a x ¯8 =

7. 4a x 7g =

8. a x 6a =

9. c x c x c x c =

10. $\frac{25a}{5}$ =

11. $\frac{30ac}{10}$ =

12. $\frac{35a}{5a}$ =

13. $a^4 \times a^5$ =

14. $\frac{a^6}{a^2}$ =

B. Expanding: Expand the brackets:

1. 2(a + 3) = 2 x a + 2 x ……

= 2a + …….

2. 4(6x – 7) = 4 x ….. – ….

=

3. a(c + 7) =

=

4. a(3a – c) =

=

5. 2a(7a – 3c) =

=

C. Factorise:

1. 3a + 12 = 3(a + ...)

2. 7c – 21 = 7(..... – .....)

3. 2x + 12 = 2(

4. 6a + 3 = 3(

5. ac – 12c = c(

6. cd – 12d = d(

7. cd + 9c =

*Current Work CL4-5: ___ / **30***

REVIEW and CURRENT WORK (CL 5 – 6): Number and Algebra

(You can use a calculator)

A. Review ...

Calculate

1. $\sqrt{31^2 + 45^2}$ = (2sf)

2. What is the cost of an item marked $1390 + GST?

3. The cost of a computer was reduced from $915 to $855 in a sale. What percentage discount is this?

4. Complete this table:

Ordinary form	*Standard form*
24,670,000,000	
	3.45×10^{-4}

5. $M = \frac{c + a}{c - a}$ if c = 9, a = -4, find M to 2dp.

Simplify:

1. $5ac - 2a^2 - 7ac + 4a^2$ =

2. $5ac^2 - 7a^2c + 4a^2c - ac^2$ =

3. $^{-}6h \times {}^{-}2h \times m$ =

4. $5e^5 \times 2e^8$ =

5. $\frac{15ac}{25cd}$ =

6. $\frac{12a^{10}}{30a^2}$ =

7. $(7a^6)^2$ =

8. $(2a^6 d^7)^3$ =

B. Expanding: Expand and simplify

1. 2a(6a + 7c) =

2. $4a^2(6a - 7)$ =

3. $5a^4(c + 7a^5)$ =

4. 2(3a + 7) + 3(5a + 4)

=

=

5. 2a(7a – 3c) + 3a(5a – 6c)

=

=

6. 2(7a – 5) – 9(5a – 2c)

=

=

C. Factorise:

1. 30ac + 20a =

2. $15a^2 + 12ac$ =

3. $7c^2 - 21c + 14cd$ =

4. $9x^2 + 12x^8$ =

5. $a^5 + 3a^7$ =

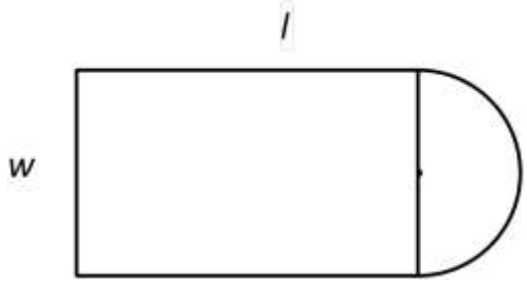
*Current Work CL5-6: ___ /**25***

APPLICATIONS and TASKS

*For each of these tasks you **must show your working.*** Set out your solution in a clear and ordered manner. **Read the question carefully.**

Task One (2 marks)

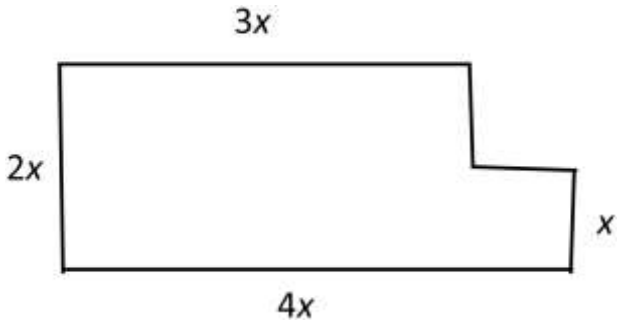
The formula for the perimeter P of the shape shown is: $P = w + 2l + \frac{\pi w}{2}$



Find the perimeter of the shape if w = 5cm and l = *8cm*

Task Two (2 marks)

a) Write a formula for the *perimeter* of this shape. Simplify your answer.



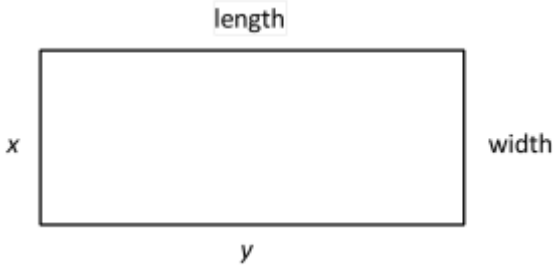
b) Write a formula for the *area* of this shape. Simplify your answer.

Task Three (3 marks)

The rectangle shown has width x, and length y.
The length is 8cm longer than the width
Write expressions for:

a) The length in terms of x

b) The perimeter in terms of x and y



c) The perimeter in terms of x

Applications Total: _____ / 7

Overall Results:

KS	*CL4-5*	*CL5-6*	*APP*	*Parent Signature:*
13	***30***	***25***	***7***	